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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,891	11/04/2003	Mayu Yamada	244823US90	3487
22850	7590	12/15/2006	EXAMINER	
C. IRVIN MCCLELLAND OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			SAFAIPOUR, BOBBAK	
			ART UNIT	PAPER NUMBER
			2618	

DATE MAILED: 12/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/699,891	Applicant(s) YAMADA ET AL.	
	Examiner Bobbak Safaipoor	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/4/2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____ |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :11/4/2003, 3/22/2004, and 3/10/2005.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement submitted on 11/4/2003, 3/22/2004, and 3/10/2005 have been considered by the Examiner and made of record in the application file.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

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the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Forslow (WO 99/05828)** in view of **NPL - ETSI TS 100 593, V8.0.0, Technical Specification: Digital Cellular Telecommunications System (Phase 2+); Base Station Controller - Base Transceiver Station (BSC - BTS) interface; Interface principles (hereinafter referred to as Technical Specification)**.

Consider **claim 1**, Forslow discloses a mobile communication system comprising:

a determination unit configured to determine as to layers of data to be transmitted by base stations to mobile stations for respective radio areas, based on area resource information concerning radio resources for the respective radio areas covered by the base stations (page 21 lines 6-23, page 22 line 24 to page 23 line 11, figure 11; In order to classify and schedule packets in an individual application flow based on the flow's reserved quality of service, various queues/buffers are employed in the base station system (BSS) and Serving GPRS Support Node (SGSN). The BSS includes a queue for mobility management signaling at each base station cell as well as a queue for each of four quality of service delay classes QoS 1 - QoS 4 at each base station cell. The SGSN includes three difference levels of queues used to classify and merge packets. The layers of queues are SNDCP protocol layer, one queue for packets corresponding to the same mobile host and quality of service delay class, and a queue for storing packets corresponding to the same cell and quality of service delay class.).

However, Forslow fails to disclose a radio transmitter configured to transmit the data to the mobile stations according to a determination of the determination unit.

In related art, Technical Specification discloses interface principles of the BSC and base station transceiver station (BTS) with its transceivers, which together form the BSS within the digital cellular telecommunications system. The system of base station equipment, including transceiver and controllers, is viewed by the mobile switching center (MSC) through a single interface as being the entity responsible for communicating with mobile stations in a certain area. (pages 4-6)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teachings of Technical Specification into the teachings of Forslow in order for the digital cellular telecommunications system operate in accordance with the given standard or specification.

Consider **claim 2**, Forslow discloses a radio network controller comprising:

a determination unit configured to determine as to layers of data to be transmitted by base stations to mobile stations for respective radio areas, based on area resource information concerning radio resources for the respective radio areas covered by the base stations (page 21 lines 6-23, page 22 line 24 to page 23 line 11, figure 11; In order to classify and schedule packets in an individual application flow based on the flow's reserved quality of service, various queues/buffers are employed in the base station system (BSS) and Serving GPRS Support Node (SGSN). The BSS includes a queue for mobility management signaling at each base station cell as well as a queue for each of four quality of service delay classes QoS 1 - QoS 4 at each base

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station cell. The SGSN includes three difference levels of queues used to classify and merge packets. The layers of queues are SNDCP protocol layer, one queue for packets corresponding to the same mobile host and quality of service delay class, and a queue for storing packets corresponding to the same cell and quality of service delay class.).

However, Forslow fails to disclose a data transmitter configured to transmit the data to the base stations according to a determination of the determination unit.

In related art, Technical Specification discloses interface principles of the BSC and base station transceiver station (BTS) with its transceivers, which together form the BSS within the digital cellular telecommunications system. The system of base station equipment, including transceiver and controllers, is viewed by the mobile switching center (MSC) through a single interface as being the entity responsible for communicating with mobile stations in a certain area. (pages 4-6)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teachings of Technical Specification into the teachings of Forslow in order for the digital cellular telecommunications system operate in accordance with the given standard or specification.

Consider **claim 6**, Forslow discloses a base station comprising:

a determination unit configured to determine as to layers of data to be transmitted to mobile stations for respective radio areas, based on area resource information concerning radio resources for the respective radio areas covered by the base station (page 21 lines 6-23, page 22 line 24 to page 23 line 11, figure 11; In order to classify and schedule packets in an individual

application flow based on the flow's reserved quality of service, various queues/buffers are employed in the base station system (BSS) and Serving GPRS Support Node (SGSN). The BSS includes a queue for mobility management signaling at each base station cell as well as a queue for each of four quality of service delay classes QoS 1 - QoS 4 at each base station cell. The SGSN includes three difference levels of queues used to classify and merge packets. The layers of queues are SNDCP protocol layer, one queue for packets corresponding to the same mobile host and quality of service delay class, and a queue for storing packets corresponding to the same cell and quality of service delay class.).

Forslow fails to disclose a radio transmitter configured to transmit the data to the mobile stations according to a determination of the determination unit.

However, Forslow fails to disclose a radio transmitter configured to transmit the data to the mobile stations according to a determination of the determination unit.

In related art, Technical Specification discloses interface principles of the BSC and base station transceiver station (BTS) with its transceivers, which together form the BSS within the digital cellular telecommunications system. The system of base station equipment, including transceiver and controllers, is viewed by the mobile switching center (MSC) through a single interface as being the entity responsible for communicating with mobile stations in a certain area. (pages 4-6)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teachings of Technical Specification into the teachings of Forslow in order for the digital cellular telecommunications system operate in accordance with the given standard or specification.

Consider **claim 10**, Forslow discloses a base station comprising:

a notification unit configured to notify a radio network controller of area resource information concerning radio resources for respective radio areas covered by the base station (page 3, lines 5-12, page 4, lines 10-26, figure 2; Forslow discloses a mobile communications system wherein each base station is located in a corresponding cell. Multiple base stations are connected to a base station controller (BSC) which manages the allocation and deallocation of radio resources and controls handovers of mobile stations from one base station to another. Each BSC also connects to a GPRS network at a SGSN responsible for delivery of packets to the mobile stations within its service area.);

a data receiver configured to receive data being layered for the respective radio areas transmitted from the radio network controller based on the area resource information notified by the notification unit (page 20 lines 22 to page 23 lines 11, figure 12; The queued data is transferred to the BSS, which classified the incoming data by cell and quality of service delay class. The BSS preferably uses a FIFO scheduling algorithm for each cell/quality of service delay class queue in addition to configurable values for priority queuing for different quality of service delay classes. Then BSS then performs packet resource assignment at the RLC/MAC layers to transfer individual packets. The packets are generally divided into data blocks, and one radio data channel may be shared by several mobile terminals with each radio block having a separate identifier.);

However, Forslow fails to disclose a radio transmitter configured to transmit the data received by the data receiver to the mobile stations for the respective radio areas.

In related art, Technical Specification discloses interface principles of the BSC and base station transceiver station (BTS) with its transceivers, which together form the BSS within the digital cellular telecommunications system. The system of base station equipment, including transceiver and controllers, is viewed by the mobile switching center (MSC) through a single interface as being the entity responsible for communicating with mobile stations in a certain area. (pages 4-6)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teachings of Technical Specification into the teachings of Forslow in order for the digital cellular telecommunications system operate in accordance with the given standard or specification.

Consider **claim 12**, Forslow discloses a communication method comprising:

determining as to layers of data to be transmitted by base stations to mobile stations for respective radio areas, based on area resource information concerning radio resources for the respective radio areas covered by the base stations (page 21 lines 6-23, page 22 line 24 to page 23 line 11, figure 11); In order to classify and schedule packets in an individual application flow based on the flow's reserved quality of service, various queues/buffers are employed in the base station system (BSS) and Serving GPRS Support Node (SGSN). The BSS includes a queue for mobility management signaling at each base station cell as well as a queue for each of four quality of service delay classes QoS 1 - QoS 4 at each base station cell. The SGSN includes three difference levels of queues used to classify and merge packets. The layers of queues are

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SNDCP protocol layer, one queue for packets corresponding to the same mobile host and quality of service delay class, and a queue for storing packets corresponding to the same cell and quality of service delay class.).

However, Forslow fails to disclose a data transmitter configured to transmit the data to the base stations according to a determination of the determination unit.

In related art, Technical Specification discloses interface principles of the BSC and base station transceiver station (BTS) with its transceivers, which together form the BSS within the digital cellular telecommunications system. The system of base station equipment, including transceiver and controllers, is viewed by the mobile switching center (MSC) through a single interface as being the entity responsible for communicating with mobile stations in a certain area. (pages 4-6)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teachings of Technical Specification into the teachings of Forslow in order for the digital cellular telecommunications system operate in accordance with the given standard or specification.

Consider **claim 3**, and as applied to **claim 2 above**, Forslow discloses the claimed invention wherein the determination unit determines the layers from among the data being layered. (page 21, lines 6-23, page 22 line 24 to page 23 line 11, figure 11)

However, Forslow fails to disclose the data transmitter transmits the data of the layers determined by the determination unit.

In related art, Technical Specification discloses interface principles of the BSC and base station transceiver station (BTS) with its transceivers, which together form the BSS within the digital cellular telecommunications system. The system of base station equipment, including transceiver and controllers, is viewed by the mobile switching center (MSC) through a single interface as being the entity responsible for communicating with mobile stations in a certain area. (pages 4-6)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teachings of Technical Specification into the teachings of Forslow in order for the digital cellular telecommunications system operate in accordance with the given standard or specification.

Consider **claim 4**, and as **applied to claim 2 above**, Forslow, as modified by Technical Specification, discloses the claimed invention wherein the determination unit determines layering methods for layering the data, further comprising:

a layered data converter configured to layer the data for the respective radio areas using the layering methods determined by the determination unit (Forslow: page 21, lines 6-23, page 22 line 24 to page 23 line 11, figure 11), wherein

the data transmitter transmits the data layered by the converter. (page 21 line 24 to page 22 line 10)

Consider **claim 5**, and as **applied to claim 2 above**, Forslow, as modified by Technical Specification, further discloses a resource information receiver configured to receive the area

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resource information from the base stations, the determination unit determines based on the area resource information received by the resource information receiver. (page 21, line 6 to page 23 line 11, figures 11 and 12)

Consider **claim 7**, and **as applied to claim 6 above**, Forslow discloses the claimed invention wherein the determination unit determines the layers from among the data being layered. (page 21, lines 6-23, page 22 line 24 to page 23 line 11, figure 11)

However, Forslow fails to disclose the data transmitter transmits the data of the layers determined by the determination unit.

In related art, Technical Specification discloses interface principles of the BSC and base station transceiver station (BTS) with its transceivers, which together form the BSS within the digital cellular telecommunications system. The system of base station equipment, including transceiver and controllers, is viewed by the mobile switching center (MSC) through a single interface as being the entity responsible for communicating with mobile stations in a certain area. (pages 4-6)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teachings of Technical Specification into the teachings of Forslow in order for the digital cellular telecommunications system operate in accordance with the given standard or specification.

Consider **claim 8**, and as **applied to claim 6 above**, Forslow, as modified by Technical Specification, further discloses the claimed invention wherein the determination unit determines layering methods for layering the data, further comprising:

a layered data converter configured to layer the data for the respective radio areas using the layering methods determined by the determination unit (Forslow: page 21, lines 6-23, page 22 line 24 to page 23 line 11, figure 11), wherein

the data transmitter transmits the data layered by the converter. (page 21 line 24 to page 22 line 10)

Consider **claim 9**, and as **applied to claim 6 above**, Forslow, as modified by Technical Specification, further discloses a resource information collection unit configured to collect the area resource information, wherein the determination unit determines based on the area resource information collected by the resource information collection unit. (page 21, line 6 to page 23 line 11, figures 11 and 12)

Consider **claim 11**, and as **applied to claim 10 above**, Forslow, as modified by Technical Specification, further discloses a resource information collection unit configured to collect the area resource information, wherein the notification unit notifies of the area resource information collected by the resource information collection unit. (page 21, line 6 to page 23 line 11, figures 11 and 12)

Conclusion

4. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Bobbak Safaipoor whose telephone number is (571) 270-1092. The Examiner can normally be reached on Monday-Friday from 9:00am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Edan Orgad can be reached on (571) 272-7884. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Bobbak Safaipour
B.S./bs

December 6, 2006

EDAN ORGAD
PATENT EXAMINER/TELECOMM.

Edan Orgad 12/7/06